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ABSTRACT

This newsletter attempts to clarify the importance of academic and vocational integration in relation to emerging pedagogy, teaching and learning practices, and school-to-work efforts. One misconception about academic-vocational integration is that new theories overshadow its value. However, current research on teaching and learning supports a constructivist pedagogy and strategies for implementing constructivism reflect the philosophy on which academic and vocational integration is based. Another myth is that integration is losing ground to school-to-work and tech prep programs. In reality, these programs provide ways to enhance integration. Tech prep with a strong applied academic focus is grounded in an integrated, authentic, and highly relevant core curriculum. School-to-work efforts extend integration beyond subject area connections to include workplace experiences that afford social integration. To implement curriculum integration in the classroom, teachers require continuing education and skill development. Externships afford them opportunities to learn how academic and vocational concepts are applied on the job and ways to tie curriculum to the broader social purposes of the community. A third misconception is that academic/industry standards drive integration. Attention to generic transferable skills is consistent with vocational education's continued interest in preparing students for the workplace. Academic skills must reflect a person's ability to know and to relate learning to work applications; their measurement must be related to industry standards. In its effort to develop a coordinated set of competencies linked to academic, employability, and occupational standards, Ohio is developing the Career-Focused Education for Ohio's Students model that combines three types of Integrated Technical and Academic Competencies. (Contains 12 references.) (YLB)

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Academic and Vocational Integration
Myths and Realities

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Myths and REALITIES

by Bettina Lankard Brown 1998

ERIC Clearinghouse on Adult, Career, and Vocational Education

Academic and Vocational Integration

The integration of academic and vocational education, mandated through the 1990 Carl D. Perkins Vocational and Applied Technology Education Act and supported by the 1994 School-to-Work Opportunities Act, is a concept that has been interpreted and implemented in a variety of ways. As a result, its role in school reform and its effectiveness in modifying curriculum content, teaching practices, and school structure to enhance student preparation for work have become obscured. This *Myths and Realities* attempts to clarify the importance of academic and vocational integration in relation to emerging pedagogy, teaching and learning practices, and school-to-work efforts.

New Pedagogy and Teaching/ Learning Theories Overshadow the Value of Integration

Current research on teaching and learning supports a constructivist pedagogy, which contends that people construct knowledge through their interpretive interactions with and experiences in their social environments. In constructivism, the focus of teaching is on empowering learners to "construct new knowledge" by providing opportunities for them to test academic theories through real-world applications of knowledge in settings that are socially relevant to their lives. Beane (1998) highlights several factors reflecting support of this pedagogy:

1. Growing support for active learning and knowledge construction in place of rote memorization and the accumulation of knowledge constructed by others.
2. Interest in patterns of brain functioning as related to learning.
3. An emerging awareness that knowledge is socially constructed, influenced by one's prior knowledge and social, cultural, and academic experiences.

Student-centered teaching, project-oriented instruction, problem-based learning, and contextual teaching and learning are currently promoted as strategies for implementing constructivism. However, they also reflect the philosophy upon which academic and vocational integration is based: that education must forge connections between knowledge development and its application in the workplace.

In its most basic form, curriculum integration involves the infusion of academic content into vocational programs, often referred to as "enhanced academics." The new vocationalism, however, calls for "enhanced relevance," which is achieved when students engage in learning experiences that are situated in real-life contexts and that afford in-depth understanding and the development of higher-order thinking skills (Pisapia and Riggins 1997; Stasz 1997).

Urquiola et al. (1997) note that curricular integration reflects the process of contextualization by bringing authentic work elements to abstract academic subjects. It contributes to the development of students' critical thinking and collaborative skills as well as those that prepare them for skilled jobs. Learning in context and constructing knowledge through socially based experiences are two teaching/learning concepts that draw upon principles of curriculum integration. When these reformed pedagogical approaches are incorporated in cross-disciplinary, multidisciplinary, interdisciplinary, and work-related integration models, they not only help students to see the connections between subject areas, but enable them to recognize the interrelated aspects of all learning and life experiences (Brown and Pritz, forthcoming).

Integration Is Losing Ground to the Tech-Prep/School-to-Work Movement

In a highly competitive, multicultural workplace, integrated skills and personal qualities are in great demand. Technical innovations have altered the way work is performed and new management processes have changed the way people perform it. School-to-work and tech prep legislation calls for school reforms that will prepare students with the academic, technical, adaptive, and interactive skills they will need in this changing workplace. Rather than being in competition with academic and vocational integration, school-to-work and tech prep programs provide ways to enhance it.

Tech prep, which has a strong applied academic focus, is "grounded in an integrated, authentic, and highly relevant core curriculum" (Pisapia and Riggins 1997, p. 20). As a component of academic and vocational integration, tech prep has the capacity to benefit all students, not only those enrolled in tech prep programs, linking them to postsecondary educational opportunities. School-to-work efforts extend integration beyond subject area connections to include workplace experiences that afford social integration as well. School-based and work-based learning, two examples of such efforts, offer educators an opportunity to connect classrooms to workplaces by increasing "students' exposure to authentic work practices that provide opportunities to apply abstract concepts or knowledge to real problems" (Stasz 1997, p. 218).

School-based learning gives students an opportunity to use academics in authentic workplace contexts through such means as applied academics. It can include "training on the job, supervision by workplace mentors, and instruction in general workplace competencies and 'all aspects of the industry'" (Stasz and Kaganoff 1997, p. v). Work-based learning, which engages students in worksite learning experiences, is an expanded academic and vocational integration activity that affords students an opportunity to receive mentoring and instruction for industry-recognized skills (Pisapia and Riggins 1997). Each of these practices offers the potential for students to engage in problem solving, teamwork, and communication within the job context, taking into account the unique aspects of the job's purpose, work tasks, organizational structure, job culture, and so forth (Stasz and Kaganoff 1997).

The concept of curriculum integration offered by Beane (1998) illustrates the potential for academic and vocational education to connect students to all aspects of the workplace: "As it is meant to be, curriculum integration involves four major aspects: the integration of experiences, social integration, the integration of knowledge, and integration as a curriculum design" (p. 5). In Beane's explanation, integration as a curriculum design has several features: problems and issues of personal and social significance guide curriculum; learning experiences are designed to integrate knowledge in context of its use; knowledge is developed and used to address relevant issues, not in preparation for future tests; and learning activities involve the application of knowledge in real-life settings where students can experience problem solving and the intricacies of social interaction.

To be able to implement curriculum integration in the classroom, teachers and other school personnel require continuing education and skill development. In Florida's Indian River Community College, faculty have been able to use funds from school-to-work and tech prep legislation, along with money from the state general edu-

cation fund, to attend conferences on integration, which has led to improved communication and collaboration across the different disciplines in the general education area ("In Florida" 1997, p. 38). Teacher externships, also supported through school reform legislation, afford teachers opportunities to learn how academic and vocational concepts are applied on the job and ways that they might tie their curriculum to the broader social purposes of the community. Externship programs also benefit employers, giving them opportunities to provide educators with input regarding the knowledge, skills, and attitudes they expect of their employees and, thereby, guide curriculum (Bidwell 1997).

Coordinated Academic and Industry Standards Drive Integration

Although there is considerable interest in curriculum integration, academic and industry skills standards are typically developed in isolation from each other (Bailey 1997). Academic assessments tend to focus on subject matter knowledge, often tested through multiple-choice and true/false test items, with little demand for the real-world application of knowledge. Vocational education assessments have traditionally focused on the demonstration of technical skills identified by the industry. However, with the recent movement toward contextual learning and curriculum integration as means of preparing students for meaningful employment, the need for integrated skills that cross disciplines and can be transferred across jobs is becoming more apparent.

The skills identified by the Secretary's Commission on Achieving Necessary Skills and their expansion in the New Standards Project have brought focus to the kind of preparation needed for the workplace and citizenship (Resnick and Wirt 1996). Generic in nature, these skills are especially appealing to employers who must satisfy any number of customers and do so in an economically proficient manner. "Today's high performance workplace calls for persons. . . able to analyze a situation, make reasoned judgments, communicate well, engage with others and reason through differences of opinions, and intelligently employ the complex tools and technologies that liberate or enslave according to use" (ibid., p. 10).

Attention to generic transferable skills is consistent with vocational education's continued interest in preparing students for the expectations of the workplace. However, as Bailey (1997) suggests, "ultimately generic standards will be meaningful only to the extent that they can be assessed so both academic and industry groups have a large stake in the success of those efforts" (p. v). Academic skills must reflect not only a person's ability to know, but his/her ability to relate learning to work applications. Their measurement must be related to industry standards and include a differentiation among those standards for various levels of jobs, e.g., those for entry-level jobs and those for higher-level jobs in the same field. "Ideally, industry skill standards should be able to refer explicitly to appropriate academic standards" (ibid).

The Ohio Department of Education is moving toward the development of a coordinated set of competencies directly linked to academic, employability, and occupational standards, building upon its Occupational Competency Analysis Profiles, which specify the competencies required for entry-level positions in specific industries or occupations, and its Tech Prep Competency Profiles, which identify the skills required in high technology occupations. In its effort to connect these competencies and integrate them with academic competencies, Ohio is developing the *Career-Focused Education for Ohio's Students* model, which combines three types of Integrated Technical and Academic Competencies (ITACs): core, cluster, and specialized.

These ITACs use sample scenarios to create a workplace context in which students engage in solving problems or performing tasks to demonstrate knowledge and skills in context (Ohio Department of Education, forthcoming). The purposes of the scenarios are to illustrate the workplace context for which a particular strand of competencies are important, to demonstrate opportunities for integrated learning of both technical and academic competencies, and to set the stage for the development of instructional plans that engage students in active learning.

Ohio's enhanced curriculum model, which is intended to expand students' options for achieving career and educational goals, is one example that a movement toward the adoption of coordinated academic and vocational standards is underway. With coordinated standards, a contextualized constructivist foundation, and the work and learning connections of tech prep and school-to-work, the integration of academic and vocational education can remain focused and effective.

References

Bailey, T. R. *Integrating Academic and Industry Skill Standards.* Berkeley: National Center for Research in Vocational Education, University of California, 1997. (ED 413 472)

Beane, J. A. *Curriculum Integration.* New York: Teachers College Press, 1998.

Bidwell, S. E. *Helping Teachers Connect Academics to the Workplace: An Implementation Guide for Teacher Worksite Externships.* Columbus: Vocational Instructional Materials Laboratory, Center on Education and Training for Employment, The Ohio State University, 1997. (ED 411 439)

Brown, B. L., and Pritz, S. G. *Teaching and Assessment Perspectives.* Columbus: Division of Vocational and Adult, Education Ohio Department of Education, forthcoming.

Fitzgerald, J., and Bass, J. "The Frontline of Reform: Teachers as Implementors of School-to-Work." *Educational Forum* 61, no. 4 (Summer 1997): 336-342.

"In Florida, Walking the Talk." *Techniques* 72, no. 2 (February 1997): 38.

Ohio Department of Education. *Integrated Technical and Academic Competencies.* Columbus: Ohio Department of Education, forthcoming.

Pisapia, J., and Riggins, E. *The Integration of Academic and Vocational Education. System Design.* Richmond, VA: Metropolitan Educational Research Consortium, 1997. (ED 404 440)

Resnick, L. B., and Wirt, J. G., eds. *Linking School and Work: Roles for Standards and Assessment.* San Francisco, CA: Jossey-Bass, Inc., 1996. (ED 389 915)

Stasz, C. "Do Employers Need the Skills They Want? Evidence from Technical Work." *Journal of Education and Work* 10, no. 3 (1997): 205-223.

Stasz, C., and Kaganoff, T. *Learning How to Learn at Work: Lessons from Three High School Programs.* Berkeley: National Center for Research in Vocational Education, University of California, 1997. (ED 414 472)

Urquiola, M.; Stern, D.; Horn, I.; Dornsife, C.; Chi, B.; Williams, L.; Merritt, D.; Hughes, K.; and Bailey, T. *School to Work, College and Career: A Review of Policy, Practice, and Results 1993-1997.* Berkeley: National Center for Research in Vocational Education, University of California, 1997. (ED 413 542)

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